

ABSTRACT OF THE DISCLOSURE

A method for managing Internet Protocol (IP) addresses on a data

5. communications network includes allocating multiple local IP address pools, requesting
IP address usage data from one or more of the network edge devices, receiving the
requested IP address usage data, determining whether the local IP address pools should
be reallocated based upon the requested IP address usage data, reallocating one or more
of the local IP address pools based upon the determination and updating one or more of
10 the local IP address pool databases and a global IP pool database based upon the
reallocating. Each of the local IP address pools is associated with a different network
edge device that is capable of accepting connection requests requiring an IP address. The
global IP address pool database includes the information maintained in each local IP
address pool. A network edge device capable of managing IP addresses on a data
15 communications network includes an allocator capable of allocating multiple local IP
address pools, a receiver capable of receiving a communication, an allocator capable of
allocating an available IP address from the local IP address pool if the communication
includes a connection request, a determiner capable of determining whether the local IP
address pool should be adjusted, a notifier capable of sending an alarm message to an IP
20 pool manager when the IP address pool should be adjusted and a memory capable of
storing an IP address allocation when the communication includes an IP address
allocation.